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Agricultural Memorandum No. 257

Return to Soil Moisture Capacity - Influence of September Deficit

The analysis of Ag. Mem. 256 was repeated with respect to the end-of-September soil moisture deficit (estimated actual), with the following results.

		End of September Deficit					
Rainfall	Zone	0-1	1-2	2-3	3-4	4-5	5 (max)
Over 35 in.	North	Oct.15	Oct.22	Nov. 2	Nov. 5	Nov.12	(Nov.15)
	Southwest	(Oct.5)	Oct.19	(Nov.5)	Nov. 7	(Nov.15)	(Nov.15)
	Approximate formula 8D+9						
30-35 in.	North	Oct. 9	Oct.31	Nov. 8	Nov.17	Nov.19	(Nov.30)
	Midlands	Oct.17	Oct.26	Nov. 5	Nov.28	Nov.20	Nov.25
	Southwest	Oct. 9	Oct.26	Oct.31	Nov.17	Nov.17	Nov.27
	Southeast	Oct. 9	Nov. 4	Nov.19	Nov.15	Nov.26	Nov.17
	Approximate formula 12D+10						
25-30 in.	North	Oct.14	Nov. 8	Nov.20	Dec. 7	Dec.11	Dec.12
	Midlands	Oct.16	Nov. 1	Nov. 8	Dec. 1	Dec.11	Dec. 4
	Southwest	Oct.19	Nov. 4	Nov.11	Nov.19	Nov.29	Nov.25
	Southeast	Oct. 9	Nov. 4	Nov.12	Nov.15	Nov.14	Nov.17
	Approximate formula 16D+4						
Below 25 in.	North	Oct.25	Nov.12	Nov.28	Dec. 8	Dec.26	(Dec.25)
	Midlands	Oct.14	Nov. 5	Nov.19	Dec. 3	Dec.24	Dec.17
	Southeast	-	Nov. 9	(Dec.2)	Nov.29	Dec.23	Dec.18
	East	Oct.24	Nov.11	Nov.25	Dec. 8	Dec.27	Dec.27
	Approximate formula 18D+6						

for number of days after September 30, where D= end of September deficit.

Full details of the spread about the mean dates are given in the Appendix.

Any comments or criticism on this paper should be sent to the author.

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January 1969.

G.15982/VT/1/69/75

North

(a) Over 35 in. annual rainfall

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
O1	3	2				
O2		2	2			
O3	1	1		3	1	
N1	1	3		2	1	
N2			3		1	1
N3						
D1				1	1	
D2						
D3						
Jan. 1						
Jan. 2						
Jan. 3						
Feb. 1						
Feb. 2						
Feb. 3						
Mean	Oct. 15th	Oct. 22nd	Nov. 2nd	Nov. 5th	Nov. 12th	Nov. 15th

North

(b) 30-35 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
11	1				
2	1	2		1	
	1	1	2	1	
	4		2	1	
1		1	1	4	
				1	1
	1	2	2	2	1
				2	
			1		
Oct. 9th	Oct. 31st	Nov. 8th	Nov. 17th	Nov. 19th	Nov. 30th

North

(c) 25-30 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
01	8					
02	4	1				
03	2	2	3			
N1	1	3	3	3	1	
N2	1	5	3	3	5	
N3			2		3	1
D1		1			2	2
D2			5	2	2	1
D3				5	5	2
Jan. 1				2	2	
Jan. 2					3	
Jan. 3						
Feb. 1						
Feb. 2						
Feb. 3						
Mean	Oct. 14th	Nov. 8th	Nov. 20th	Dec. 7th	Dec. 11th	Dec. 12th

North

(d) Under 25 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
3					
1					
	2		1		
3	2	3	1		
	3	2	2	1	
	1	1		3	
1	1	1	1	3	
		2	3	1	2
		2	2	2	1
			1	3	
			1	3	1
				3	
				1	
Oct. 25th	Nov. 12th	Nov. 28th	Dec. 8th	Dec. 26th	Dec. 25th

Midlands

(a) Over 30 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
O1	4					
O2	4	4	4			
O3	1	4	5	2	2	1
N1	3	6	4	1	4	
N2			5		4	1
N3			1	3	2	
D1				6	3	3
D2						
D3			1	2	1	
Jan. 1					1	
Jan. 2						
Jan. 3						
Feb. 1						
Feb. 2						
Feb. 3						
Mean	Oct. 17th	Oct. 26th	Nov. 5th	Nov. 28th	Nov. 20th	Nov. 25th

Midlands

(b) 25-30 in.

End of September Deficit

	0-1	1-2	2-3	3-4	4-5	5
	6					
	4	5			1	
		5	7	3	3	
	4	6	9	6	2	1
		5	6	3	5	3
		2	3	2	3	1
			1	11	2	5
				4	1	4
				3	5	
				1	7	
				1	5	1
					1	
				1		
Mean	Oct. 16th	Nov. 1st	Nov. 8th	Dec. 1st	Dec. 11th	Dec. 4th

Midlands

(c) Below 25 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
01	4	2				
02	6	1			1	
03	1	2			1	
N1	1	6	7	1	2	
N2		1	4	4	4	2
N3			5	5	1	2
D1		3	4	2	1	
D2			1		5	3
D3				4	2	1
Jan. 1					7	2
Jan. 2				1	4	1
Jan. 3					4	1
Feb. 1					2	
Feb. 2					1	
Feb. 3					1	
Mean	Oct. 14th	Nov. 5th	Nov. 19th	Dec. 3rd	Dec. 24th	Dec. 17th

South-West

(a) Over 35 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
2	2				
	6	1	1		
	4		2	1	
		1	2	1	
	1				3
		1	1	1	
			1	1	
Oct. 5th	Oct. 19th	Nov. 5th	Nov. 7th	Nov. 15th	Nov. 15th

South-West

(b) 30-35 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
01	10	1				
02	3	8	6	1	1	
03		7	5	3	6	
N1	1	7	2	4	5	3
N2			2	2	3	4
N3			2	2	4	1
D1		1	1	2	2	2
D2				2	3	
D3				1	1	1
Jan. 1					1	2
Jan. 2						
Jan. 3						
Feb. 1						
Feb. 2						
Feb. 3						
Mean	Oct. 9th	Oct. 26th	Oct. 31st	Nov. 17th	Nov. 17th	Nov. 27th

South-West

(c) Below 30 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
2					
1	2		1	1	
	3	4	3	1	
2	3	2	2	5	1
		6	2		3
			3	1	
	2	2	4	5	1
			1	2	
			1		
				4	1
Oct. 19th	Nov. 4th	Nov. 11th	Nov. 19th	Nov. 29th	Nov. 25th

South-East

(a) Over 30 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
O1	3					
O2	2	1		1	2	
O3		3	2	3	3	
N1		5	2	1	1	2
N2		1	1	2	1	4
N3		1	3	3	1	1
D1			2	1	3	
D2			1		5	
D3				1	1	2
Jan. 1					2	1
Jan. 2						
Jan. 3						
Feb. 1						
Feb. 2						
Feb. 3						
Mean	Oct. 9th	Nov. 4th	Nov. 19th	Nov. 15th	Nov. 26th	Nov. 17th

South-East

(b) 25-30 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
5					
2			1	1	
3	4	1	2		5
2	4	2	4	3	2
	3	1	5	2	4
		2	8	3	2
	1	2	6	5	3
		1	4	14	1
			3	5	1
				3	3
			1	1	2
Oct. 17th	Nov. 7th	Nov. 20th	Nov. 27th	Dec. 9th	Nov. 28th

South-East

(c) Under 25 in.

End of September Deficit

Capacity Date	0-1	1-2	2-3	3-4	4-5	5
01						
02						
03		1		1		1
N1		3		1	1	2
N2		4	1	4	1	2
N3			1	4	5	3
D1				3	4	
D2			2	3	2	3
D3				1	1	1
Jan. 1					4	2
Jan. 2				1	4	2
Jan. 3						2
Feb. 1						1
Feb. 2					2	1
Feb. 3						
Not at all					1	
Mean -		Nov. 9th	Dec. 2nd	Nov. 29th	Dec. 23rd	Dec. 18th

East

(a) Under 25 in.

End of September Deficit

0-1	1-2	2-3	3-4	4-5	5
3					
4	2				
2	1	1			
2	7	5	2	2	
3	9	8	8	6	2
	4	7	17	6	15
	1	4	8	12	5
		3	10	6	7
		4	12	10	9
			3	9	5
			2	6	13
			1	1	3
				5	3
				4	1
				2	1
				1	3
Oct. 24th	Nov. 11th	Nov. 25th	Dec. 8th	Dec. 27th	Dec. 27th